

1966 OPERATING SUMMARY

SIDNEY

TOWNSHIP
(Batawa)

***water pollution
control plant***

ONTARIO WATER RESOURCES COMMISSION

Division of Plant Operations

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ONTARIO WATER RESOURCES COMMISSION
OFFICE OF THE GENERAL MANAGER

Members of the Sidney Township (Batawa)
Local Advisory Committee,
Township of Sidney.

Gentlemen:

We are pleased to submit to you the 1966 Operating Summary for the Sidney Township (Batawa) Water Pollution Control Plant, OWRC Project No. 62-S-121.

It is hoped that our joint participation in efforts to combat water pollution will have even more success in the coming year.

Yours very truly,

A handwritten signature in dark ink, appearing to read "D. S. Caverly", is written over the typed name.

D. S. Caverly,
General Manager.



ONTARIO WATER RESOURCES COMMISSION

801 BAY STREET

TORONTO 5

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VICE-CHAIRMAN

D. S. CAVERLY
GENERAL MANAGER

W. S. MACDONNELL
COMMISSION SECRETARY

General Manager,
Ontario Water Resources Commission.

Dear Sir:

I am happy to present you with the 1966 Operating Summary for the Sidney Township (Batawa) Water Pollution Control Plant, OWRC Project No. 62-S-121.

The report offers a concise summary of operating data for the year and comparisons with previous years where these are applicable and significant.

Yours very truly,

A handwritten signature in cursive script, appearing to read "B. C. Palmer".

B. C. Palmer, P. Eng.,
Director,
Division of Plant Operations.

FOREWORD

● This operating summary contains complete information on the management of the project during 1966. It contains a concise review of the year's plant operation, significant financial details, and a visual presentation in graphs and charts of technical performance.

The information will be of value to interested parties in assessing the adequacy of the project at this time and its ability to meet future requirements.

The report is the result of co-operation by several groups within the Division of Plant Operations. These include the statistics section and the technical publications section. The Division of Finance and the draughting section of the Division of Sanitary Engineering were also closely associated with its publication.

The Regional Operations Engineer, however, has had the primary responsibility for the content, and will be happy to answer any questions regarding it.

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SIDNEY TWP. (BATAWA)
water pollution control plant
operated for

THE TOWNSHIP OF SIDNEY (BATAWA)

by the

ONTARIO WATER RESOURCES COMMISSION

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Assistant Director:	C. W. Perry
Regional Supervisor:	D. A. McTavish
Operations Engineer:	J. N. Dick

801 Bay Street Toronto 5

'66 REVIEW

The 1966 operating costs for the Township of Sidney Water Pollution Control Plant were \$6,812.13. This was a slight decrease in operating costs from the previous year. Although the payroll and chemical costs were higher in 1966, there was a sufficient reduction in fuel, power, general supplies and sundry costs to considerably decrease the total in 1966. Flows to the plant were generally high for the first six months of 1966, but at the beginning of August, the Bata Shoe Company made certain modifications which decreased flows considerably. In about November, the flows again increased to the fairly high average flow of 250,000 gallons per day.

In the latter part of 1966 it was found that the foot valve in the deep well pump was not closing properly and that repairs would have to be made.

A new sludge contract was let in 1966. This contract was considerably lower in cost than the previous one. The cost of hauling the digested sludge was reduced from \$2.00 per cubic yard to \$1.15 per cubic yard.

It should be noted in this report that the flow readings that are presented are instantaneous flows, and are obtained at the time that the plant is inspected (usually each morning).

PROJECT COSTS

NET CAPITAL COST (Final)	\$162,152.89
DEDUCT - Portion Financed by CMHC (Estimated)	<u>109,605.08</u>
Long Term Debt to OWRC	\$ <u>52,547.81</u>
 Debt Retirement Balance at Credit (Sinking Fund) December 31, 1966	 \$ <u>6,405.58</u>
 Net Operating	 \$ 6,812.13
Debt Retirement	1,906.00
Reserve	1,058.57
Interest Charged	2,953.25
 TOTAL	 \$ <u>12,729.95</u>

RESERVE ACCOUNT

Balance at January 1, 1966	\$ 1,908.03
Deposited by Municipality	1,058.57
Interest Earned	<u>128.94</u>
Less Expenditures	<u>-</u>
 Balance at December 31, 1966	 \$ <u>3,095.54</u>

MONTHLY OPERATING COSTS

MONTH	TOTAL EXPENDITURE	PAYROLL	FUEL	POWER	CHEMICAL	GENERAL SUPPLIES	EQUIPMENT	REPAIRS & MAINTENANCE	* SUNDRY
JAN	311.41	210.98		90.39					10.04
FEB	416.46	200.68	92.32	88.16				0.61	34.69
MARCH	459.37	211.58	84.73	87.57		13.99			61.50
APRIL	650.05	334.82	94.96	67.00	115.88				37.39
MAY	483.78	253.46	99.80	64.97		22.86			42.69
JUNE	478.89	206.99	64.05	69.70		35.58	50.88		51.69
JULY	542.41	179.58	100.06	62.95	118.13	23.64			58.05
AUG	610.23	381.08		63.62		24.37	2.81		138.35
SEPT	695.44	318.48	84.44	64.30		17.43			210.79
OCT	690.74	234.81		66.32	118.13	33.83			237.65
NOV	571.16	220.75	115.45	69.90		14.94			150.12
DEC	902.19	336.99	71.75	68.82	228.38	37.75	59.50		99.00
TOTAL	6812.13	3090.20	607.56	863.70	580.52	224.39	113.19	0.61	1131.96

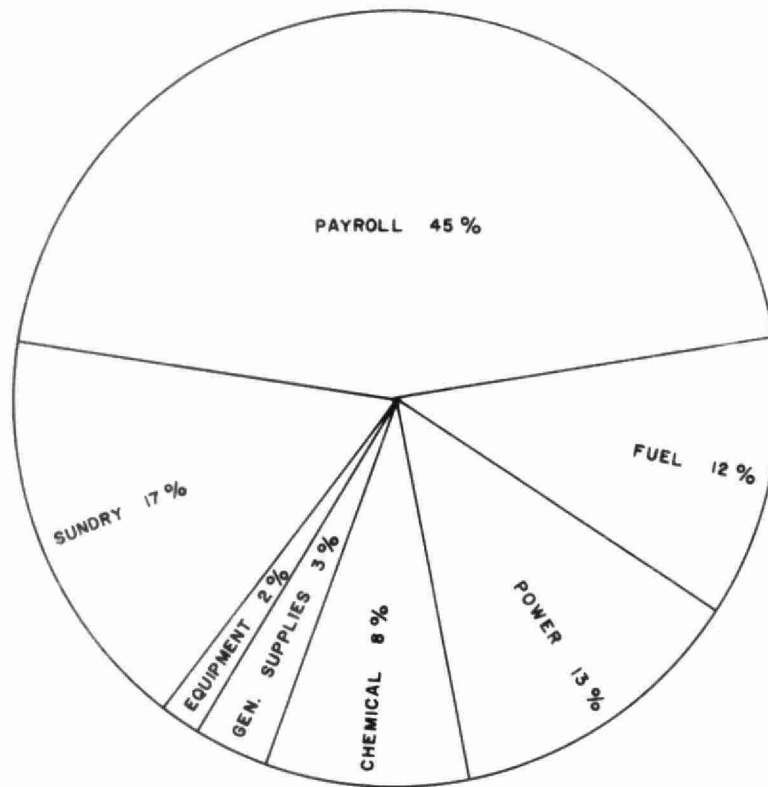
* SUNDRY INCLUDES SLUDGE HAULING COSTS WHICH WERE \$217.62

YEARLY OPERATING COSTS

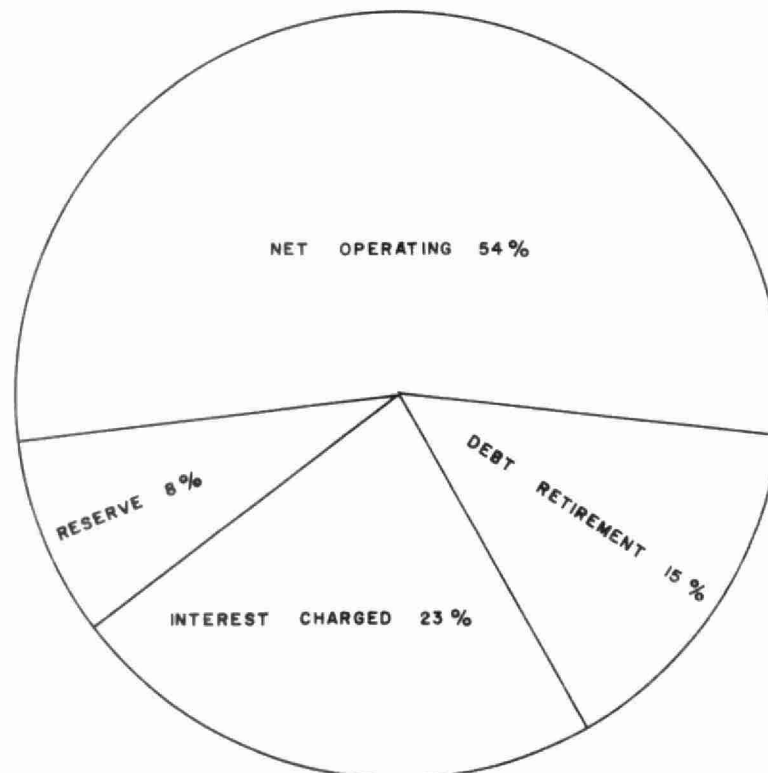
YEAR	M.G. TREATED	TOTAL COST	COST PER MILLION GALLONS
1964	*95,590	\$6024.26	\$ 63.02
1965	80,53	\$7677.10	\$ 95.33
1966	67.42	\$6812.13	\$101.04

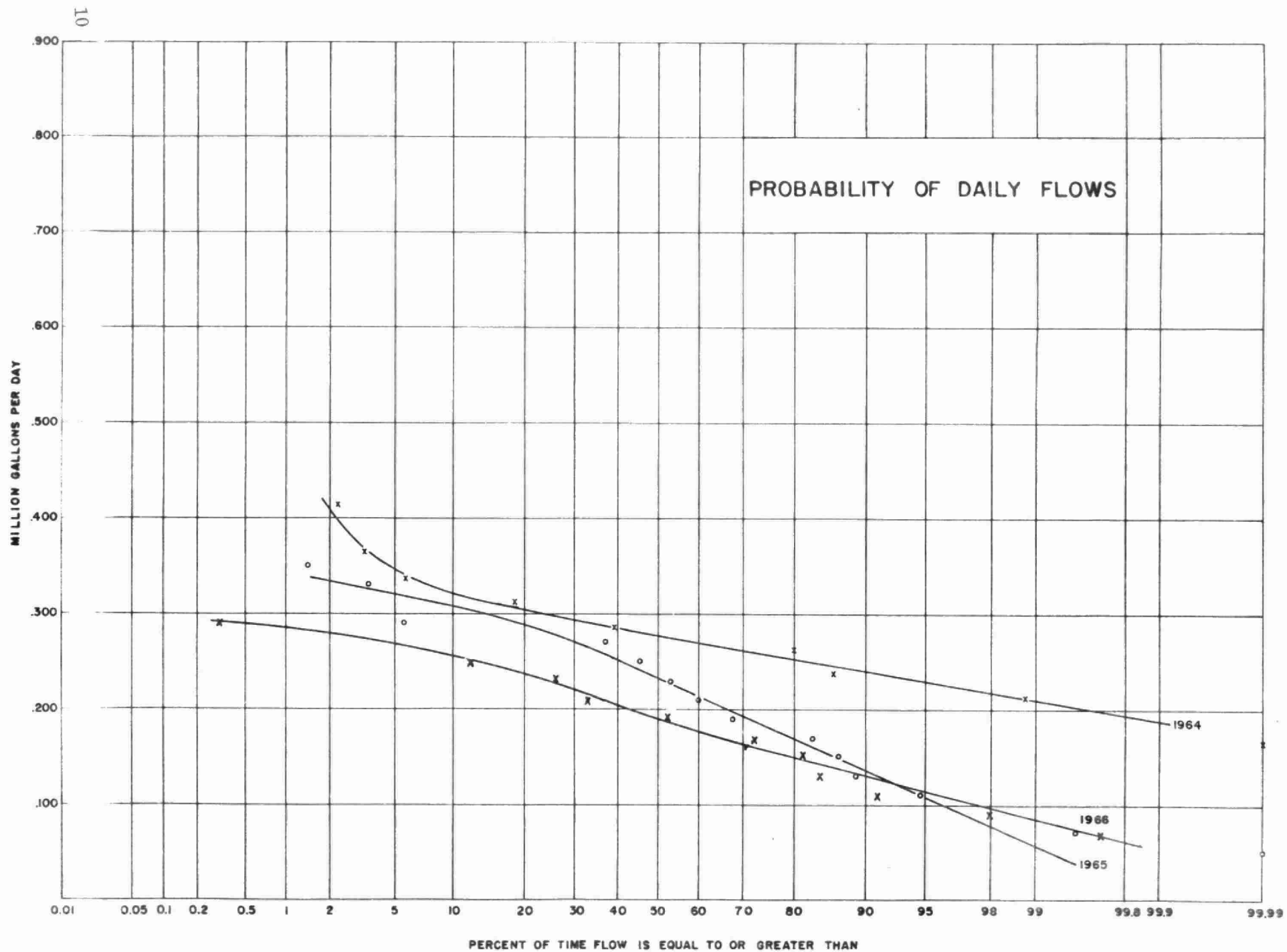
* PRORATED ON ESTIMATED FLOWS OCTOBER-DECEMBER

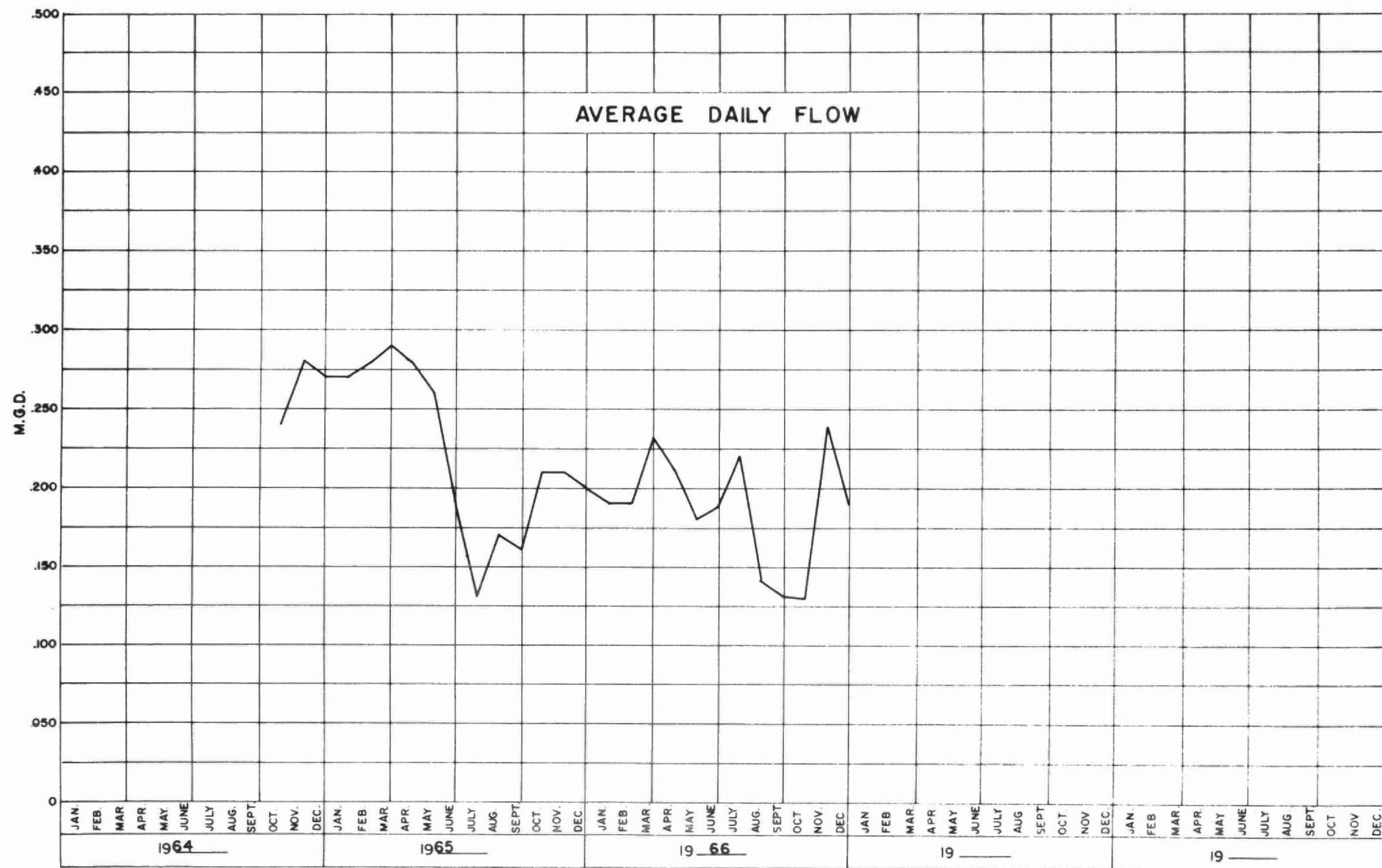
1966 OPERATING COSTS

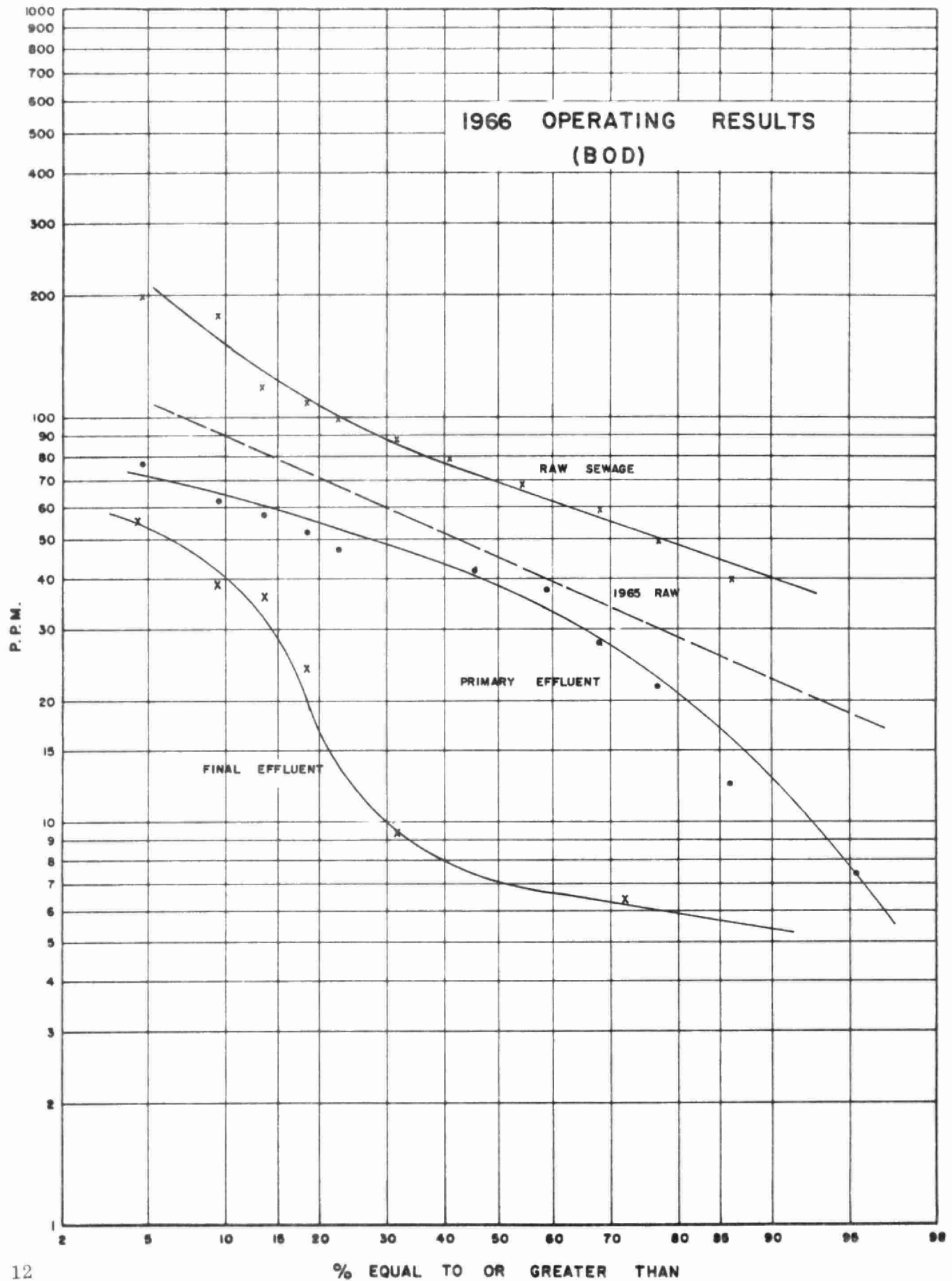


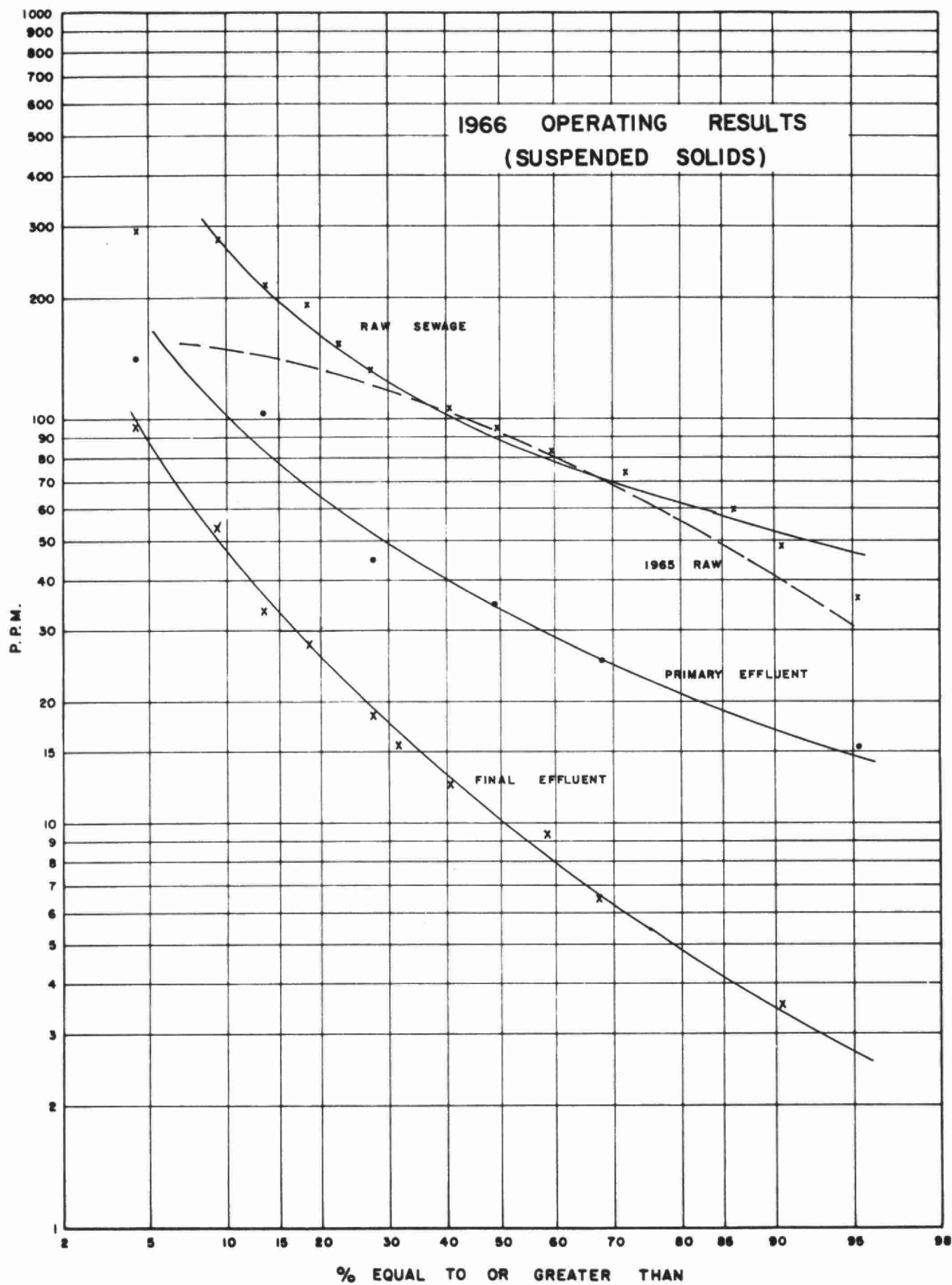
TOTAL ANNUAL COST

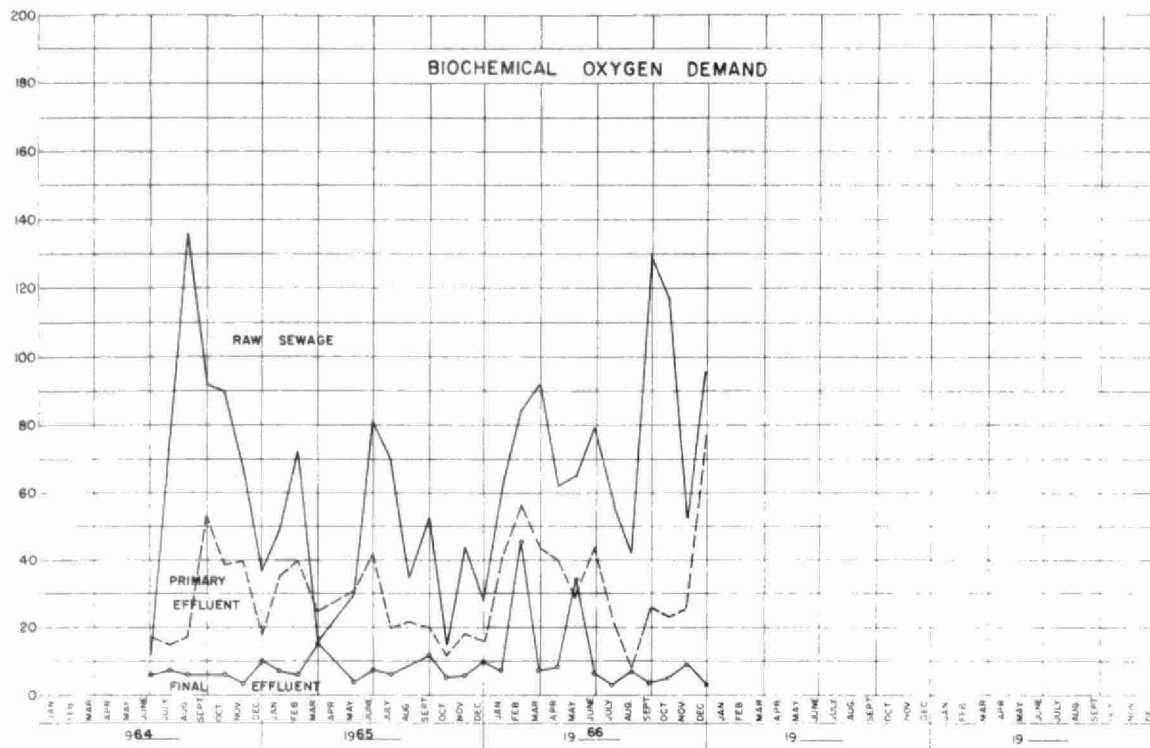




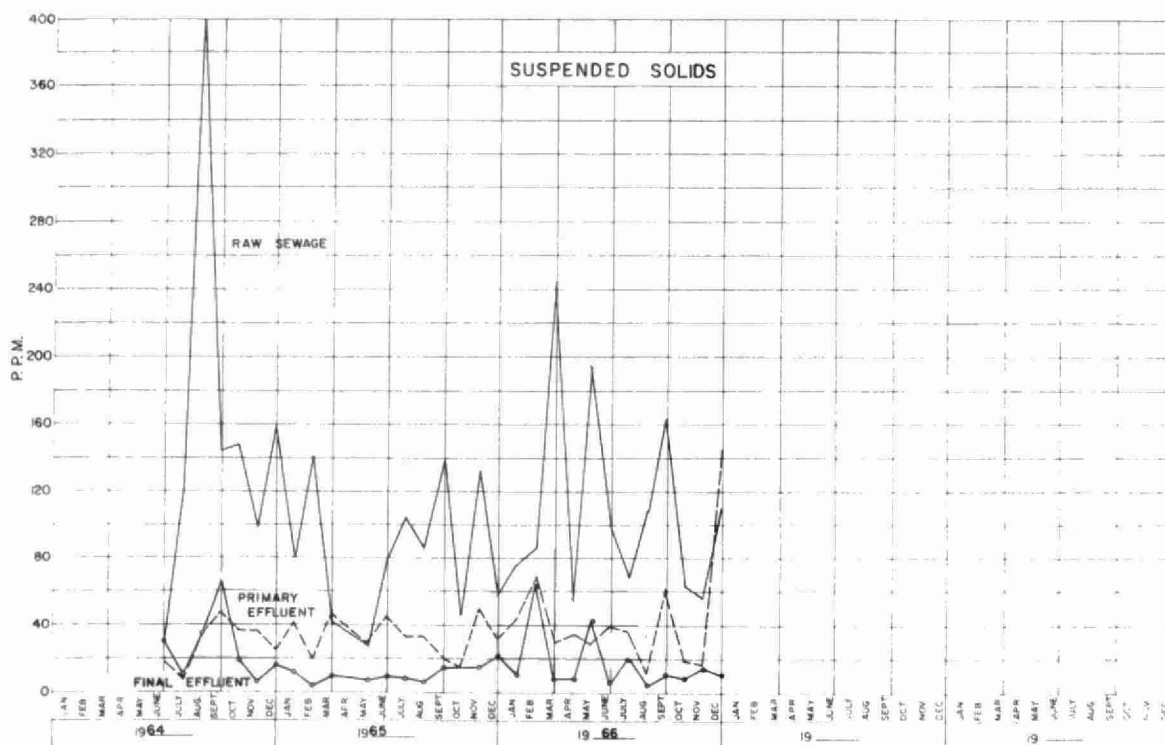








MONTHLY VARIATIONS



GRIT, B.O.D AND S.S. REMOVAL

MONTH	B. O. D.				S. S.				GRIT REMOVAL CU. FT.
	INFLUENT PPM.	EFFLUENT PPM.	% REDUCTION	TONS REMOVED	INFLUENT PPM.	EFFLUENT PPM.	% REDUCTION	TONS REMOVED	
JAN.	62	6.9	89.0	1.6	76	10	86.5	1.9	4
FEB.	84	46	45.0	1.0	85	65	23.5	0.5	-
MAR.	92	6.2	93.5	3.0	245	7.5	97.0	8.4	4
APR.	62	9.6	84.5	1.6	55	8	85.5	1.5	3
MAY	65	34	47.5	0.9	193	41	79.0	4.3	-
JUNE	79	6.6	91.5	2.0	99	4.5	95.5	2.7	4
JULY	56	3	94.5	1.8	68	20	70.5	1.6	-
AUG.	41	7	83.0	0.7	107	3	97.0	2.3	3
SEPT.	130	4	97.0	2.5	163	10	94.0	3.0	-
OCT.	117	5	95.5	2.0	63	8	87.5	1.0	4
NOV.	52	9	82.5	1.5	56	14	75.0	1.5	5
DEC.	96	2	97.0	2.7	112	10	91.0	3.0	-
TOTAL	-	-	-	22.2	-	-	-	31.4	27
AVG.	78	12	84.5	1.8	110	17	84.5	2.6	2

COMMENTS

The average concentration of BOD and SS in the plant influent was 78 and 110 ppm respectively. The plant effluent BOD and SS concentrations were 12 and 17 ppm respectively. The BOD and SS concentrations in the plant effluent were well within OWRC objectives. The analyses were made on 12 eight-hour composite samples that were collected from the waste at the treatment plant and submitted to the OWRC laboratories in Toronto for analyses.

A total of 22.2 tons of BOD and 31.4 tons of solids were removed from the waste during the year. Twenty-seven cubic yards of grit were removed, and this appears to be reasonable for a system of this size.

AERATION SECTION

MONTH	PRIM. EFFL. B.O.D. PPM.	MLSS. PPM.	LBS. BOD. PER 100 LBS. M. L. S. S.
JANUARY	41	1806	11
FEBRUARY	56	1213	23
MARCH	44	1117	24
APRIL	40	1544	14
MAY	29	1879	8
JUNE	44	1892	12
JULY	22	1537	8
AUGUST	8	1970	2
SEPTEMBER	26	1873	4
OCTOBER	23	1910	3
NOVEMBER	26	1925	8
DECEMBER	76	1998	19
TOTAL	-	-	-
AVERAGE	36	1722	11

COMMENTS

The average concentration of mixed liquor suspended solids in the aeration tanks was 1,700 ppm. The loading on the aeration tanks, 11 pounds of BOD per 100 pounds of MLSS, is a low loading on the aeration section.

The cubic feet of air used to remove one pound of BOD is not available at this plant, since the air requirements are used both for aeration and for sludge return. The ratio being used for each purpose cannot be determined.

DIGESTER OPERATION

MONTH	SLUDGE TO DIGESTERS			SLUDGE FROM DIGESTERS		
	1000'S CU. FT.	% SOLIDS	% VOL. MAT.	1000'S CU. FT.	% SOLIDS	% VOL. MAT.
JAN.	6.92	-	-	-	-	-
FEB.	6.19	-	-	-	-	-
MAR.	7.52	0.56	0.46	-	4.36	2.36
APR.	6.15	0.83	0.66	-	4.59	2.53
MAY	5.38	0.83	0.64	-	4.64	2.71
JUNE	6.04	0.60	0.46	-	3.54	2.13
JULY	4.96	3.56	2.53	-	3.14	1.81
AUG.	6.00	3.22	2.26	1.44	4.47	2.51
SEPT.	5.88	1.03	0.61	0.64	3.75	1.96
OCT.	5.50	1.59	1.21	0.48	2.90	1.82
NOV.	5.04	1.02	0.80	-	2.77	1.88
DEC.	4.92	1.15	0.78	-	2.09	1.27
TOTAL	70.50	-	-	2.56	-	-
AVG.	5.88	1.44	1.04	0.21	3.62	2.10

COMMENTS

A total of 70,000 cubic feet of raw sludge was pumped to the digester for further breakdown of organic solids. The raw sludge had an average total solids concentration of 1.44 percent and an average total volatile solids concentration of 1.04 percent.

A total of 2,500 cubic feet of sludge was hauled from the digester in 1966. This digested sludge contained a total solids concentration of 3.62 percent and a volatile concentration of 2.10 percent.

CHLORINATION

MONTH	PLANT FLOW (MG)	POUNDS CHLORINE	DOSAGE RATE (PPM)
JANUARY	5.76	173	3.00
FEBRUARY	5.30	199	3.75
MARCH	7.08	220	3.11
APRIL	6.25	225	3.60
MAY	5.65	217	3.84
JUNE	5.64	188	3.33
JULY	6.68	204	3.05
AUGUST	4.37	212	4.85
SEPTEMBER	3.96	212	5.35
OCTOBER	3.64	225	6.18
NOVEMBER	7.20	224	3.11
DECEMBER	5.89	238	4.04
TOTAL	67.42	2537	-
AVERAGE	5.62	211	3.76

COMMENTS

The plant effluent was disinfected with chlorine for the entire year. This was to protect the water supply systems below the outfall from bacterial contamination. In 1966 it required an average dosage of 3.76 ppm of chlorine to obtain a 0.5 ppm chlorine residual after a 15-minute detention time. This is the OWRC objective for a plant effluent.

LABORATORY LIBRARY



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RECOMMENDATIONS

1. It is recommended that the municipality make every effort to decrease the infiltration to the sewer system.
2. It is recommended that a flow meter be incorporated into the plant so that a more accurate count of flows reaching the plant is available.

